

Intl. Appln. No.: PCT/EP00/01457

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24. An immunogen as claimed in claim 23 wherein the ratio of peptide:protein D carrier is between 2 to 10.

25. An immunogen as claimed in claim 21, wherein the peptide is A β 43 from the amyloid precursor protein or a fragment thereof, characterized in that A β 43 includes those sequences corresponding to amino acids 1 to 39, 1 to 40, 1 to 41, 1 to 42, 1 to 43.

26. An immunogen as claimed in claim 25 wherein the fragments are peptides selected from the group of peptides incorporating residues A β 1-5, 1-12, 13-28, 17-28, and 33-42.

27. An immunogen as claimed in claim 21 wherein the peptide comprises the sequence EHWSYGLRPG (SEQ ID NO:1) as tandem repeats or tandem dimers of GnRH.

28. An immunogen as claimed in claim 27 wherein the tandem repeat is E-H-W-S-Y-G-L-R-P-G-S-C-S-E-H-W-S-Y-G-L-R-P-G-NH₂ (SEQ ID NO:2) or wherein the tandem dimer is E-H-W-S-Y-G-L-R-P-G-Q-H-W-S-Y-G-L-R-P-G-S-C-E-H-W-S-Y-G-L-R-P-G-Q-H-W-S-Y-G-L-R-P-G-NH₂ (SEQ ID NO:3), conjugated to protein D through a central cysteine.

29. An immunogen as claimed in claim 21 wherein the peptide is derived from an IgE epitope selected from the group of peptides having the following sequences:

KTKGSGFFVF (SEQ ID NO:4)

EDGQVMDVD (SEQ ID NO:5)

STTQEGEL (SEQ ID NO:6)

SQKHWLSDRT (SEQ ID NO:7)

GHTFEDSTKKCADSNPRGV (SEQ ID NO:8)

30. An immunogen as claimed in claim 21 wherein the mimotopes are selected from the group having the following sequences:

CADSNPRGV (SEQ ID NO:9)

CLEDGQVMDVDLL-NH₂ (SEQ ID NO:10)

CSTTQEGELA-NH₂ (SEQ ID NO:11)

CSQKHWLSDRT-NH₂ (SEQ ID NO:12)

31. An immunogen as claimed in claim 21 wherein the protein D carrier is conjugated to a plurality of discrete peptides.

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32. A vaccine comprising an immunogen as claimed in any of claims 21 to 31 and a pharmaceutically acceptable excipient.
33. A vaccine as claimed in claim 32 additionally comprising an adjuvant.
34. A vaccine as claimed in claim 33 wherein the adjuvant is selected from Saponin adjuvants, lipid A, or derivative thereof, aluminium salt, oil in water emulsions, liposomes or combinations thereof.
35. A method of manufacturing an immunogen comprising the step of conjugating the peptide of claims 21 to 22 and 25 to 31 to protein D or a fragment thereof.
36. A method of manufacturing a vaccine formulating an immunogen any of claims 21 to 31 with a pharmaceutically acceptable excipient.
37. A method of treating a patient suffering from or susceptible to a chronic or infectious disease comprising administering a safe and effective amount of vaccine as claimed in claim 32.
38. A method of treating a patient suffering from or susceptible to a chronic or infectious disease comprising administering a safe and effective amount of vaccine as claimed in claim 33.
39. A method of treating a patient suffering from or susceptible to a chronic or infectious disease comprising administering a safe and effective amount of vaccine as claimed in claim 34.
40. A method of treating a patient suffering from or susceptible to a chronic or infectious disease comprising administering a safe and effective amount of immunogen as claimed in any of claims 21-31.

REMARKS

The above-identified application is being entered into the National Phase from PCT application no. PCT/EP00/01457.